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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/583,354	05/31/2000	Benjamin B Kimia	BRU00-01	3952
7590	03/11/2004		EXAMINER	
David E Huang Esq Chapin & Huang LLC Westborough Office Park 1700 West Park Drive Westborough, MA 01581			NGUYEN, MADELEINE ANH VINH	
			ART UNIT	PAPER NUMBER
			2626	
			DATE MAILED: 03/11/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/583,354	KIMIA, BENJAMIN B	

Examiner	Art Unit	
Madeleine AV Nguyen	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3,6-8,11-13,16,17 and 20-23 is/are rejected.
- 7) Claim(s) 4,5,9,10,14,15,18 and 19 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 31 May 2000 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-5, 6-10, 21-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed are directed toward a method and system for matching a target color with a sample color by selecting a particular sample identifier based on a set of color space distances. This is considered to be non-functional descriptive material, a data structure per sec, mere data. The various types of identifier claimed are considered mere data or different forms of non-functional descriptive material. Thus, the claimed invention does not have any practical application since descriptive material cannot exhibit any functional interrelationship with the way in which computing processes are performed.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6-8, 11-13, 16-17, 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hung et al (US Patent No. 5,065,234).

Concerning claims 1, 12, 21, Hung et al discloses a method for matching a target color with a sample color (Figs.9-14) comprising the steps of generating a target identifier that identifies a target color in a device independent color space (col. 8, line 36 – col. 10, line 2); providing a set of color space distances based on the target identifier and a set of sample identifiers that identifies a set of sample colors in the device independent color space (col. 10, lines 5-7); selecting from the set of sample identifiers, a particular sample identifier that identifies a particular sample color in order to match the target color with the particular sample color (col. 10, lines 8-57), outputting an image having the sample color area defined by the selected sample identifier (3, Fig.1), (col. 10, line 67 – col. 11, line 22; col. 12, line 66 – col. 14, line 38; col. 23, line 46 – col. 24, line 63).

Hung et al fails to teach that each sample identifiers defines a sample color area having a core area including a unique set of colors and a buffer area adjacent the core area having a same common color. However, Hung teaches that each of the sample identifiers (Figs.14, 21) defines an area including a unique set of colors (Y,M, C) and an area having a same common color (white or black). It would have been obvious to one skilled in the art at the time the invention was made to consider the areas in the sample identifiers in Hung includes a core area and a buffer area adjacent the core area since they are different color patch patterns created on the basis of all color combinations having different color values and common color value wherein each color patch pattern is preferably an independent color space (col. 9, lines 1-4; col. 10, line 67 – col. 11, line 3).

Concerning claims 2, 13, Hung et al further teaches repeating the steps in claim 1 for other target colors in order to match multiple target colors to multiple sample identified by the

set of sample identifiers; and the step of creating a color look-up table having multiple entries that match the multiple target colors to the multiple sample colors (Figs.27, 29, 33; col. 8, lines 36-45; col. 10, lines 54-60).

Concerning claims 3, 8, Hung does not directly teach that each color distance is a sphere radius between the target color and one of the set of sample colors and choosing a sample identifier that identifies a sample color that provides a shortest sphere radius between the target color and any of the set of sample colors in the device independent color space. However, Hung teaches that “by using the target T’ and a total of 25 basic matrix points (Fig.11), a matrix point which is closer to the point x representing the target value T’ is calculated” (col. 10, line 24-27) or “a matrix point having a smallest difference from the point x representing the target value T’ is calculated” (col. 10, lines 28-30). It would have been obvious to one skilled in the art at the time the invention was made to substitute the way of deciding the shortest distance in Hung by using the shortest sphere radius as claimed since the shortest distance between the target value T’ and 25 matrix point is equivalent to “a shortest sphere radius between the target color and any of the set of sample colors” and the color patches patterns in Hung are 3 dimensional patterns (Fig.9; col. 9, lines 1-4).

Concerning claim 6, 16, 22, Hung discloses a system (Fig.27) for matching a target color with a sample color comprising a generator module (LUTs), a distance module (30) and a selector module (45, 46, 47), an output device (3, Fig.1) for performing the steps discussed in claim 1 above (col. 18, line 35 – col. 20, line 51).

Concerning claim 7, Hung further teaches a controller (50) that operates the generator, distance and selector modules and creates a color lookup table.

Concerning claims 11, 20, 23, Hung discloses a computer readable medium having instructions stored thereon for matching a target color with a sample color such that the instructions when carried out by a processor cause the processor to perform the steps discussed in claim 1 above.

Concerning claim 17, Hung further teaches memory that stores a color lookup table (LUTs).

Allowable Subject Matter

4. Claims 4, 5, 9, 10, 14, 15, 18, 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is an Examiner's Statement of Reasons for Allowance: Claims 4, 5, 9, 10, 14, 15, 18, 19 are allowable over the prior art of record because the Examiner found neither prior art cited in its entirety, nor based on the prior art, found any motivation to combine any of the said prior art which teaches a system and method as claimed in claims 1, 6, 12, 16 with means for performing the step of choosing, from multiple sample identifiers that identify the multiple sample colors, a sample identifier that identifies a sample color that provides a closes hue plane to the target color in another device independent color space, and obtaining, as the particular sample identifier, a data structure that defines a JxK matrix of colored dots to form a core area, and multiple colored dots adjacent the JxK matrix to form a buffer area wherein the core and buffer areas combine to form color area having an MxN matrix dots wherein J, K, M and N are integers and J is less than M, K is less than N (claims 4, 5, 9, 10, 14, 18); and in addition, means

for performing steps of determining, for a region of another target color, that the other target color does not match any of the set of sample colors within a predetermined color distance in the device independent color space and from the set of sample identifiers and in a pseudo-random manner, selecting multiple sample identifiers that identify different sample colors in order to match the region of the other target color with the different sample colors identified by the multiple sample identifiers in an alternating manner (claims 15, 19).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Beretta (US Patent No. 5,416,890) discloses a graphical user interface for interactively modifying the appearance of a palette of colors.
- b. Glassner et al (US Patent No. 5,384,901) teaches a method of rendering a color image for mapping colors to the gamut of the designated output medium while preserving the semantic consistency of the object color and illumination information in the image.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Madeleine AV Nguyen whose telephone number is 703 305-4860. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A Williams can be reached on 703 305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Madeleine AV Nguyen
Primary Examiner
Art Unit 2626

February 24, 2004